Research Problem Review 75-1

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LEVEL II

# INITIAL RESULTS OF AN ORGANIZATIONAL SURVEY IN AN AIR DEFENSE COMMAND

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# FOR THE BEHAVIORAL AND SOCIAL SCIENCES

## A Field Operating Agency under the Jurisdiction of the Deputy Chief of Staff for Personnel

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(6) INITIAL RESULTS OF AN ORGANIZATIONAL SURVEY IN AN AIR DEFENSE COMMAND

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FOREWORD

The Team Performance Enhancement Technical Area of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) has among its objectives the expansion of human performance capabilities for effective operation in military units and the improvement of soldier and team performance, motivation, and job satisfaction through the design and utilization of techniques to enhance organizational effectiveness. Organizational Engineering Research develops diagnostic instruments to identify problem areas, intervenes with organizational development techniques for correcting the problems, and finally evaluates the intervention results in terms of job satisfaction and productivity. Such a program has been developed by ARI in field units of one Army agency, as reported in ARI Research Reports 1180(U) and 1184(C); an ARI paper will discuss the development and validation of the Work Environment Questionnaire (WEQ) used to identify organizational problem areas in specific Army work settings.

To test whether the program and the questionnaire were sufficiently generalized to be usable in a variety of organizational situations, a second quite different Army agency, the 32nd Army Air Defense Command, was surveyed with a modified version of the WEQ. This report gives an overview of AADCOM and assessment of the problems, and discusses various aspects of morale and performance measurements as preview to final evaluation of the WEQ.

The entire work unit is responsive to special requirements of the Deputy Chief of Staff for Personnel and the 32nd Air Defense Command. Research is conducted under Army RDTE Project 2Q762717A732, Organizational Engineering Research.

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Technical Director


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INITIAL RESULTS OF AN ORGANIZATIONAL SURVEY IN AN AIR DEFENSE COMMAND

BRIEF

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Requirement:

To conduct a preliminary survey in the 32nd Army Air Defense Command preparatory to introducing an Organizational Engineering Research program in that Command.

Procedure:

A diagnostic questionnaire was administered to enlisted men from a representative sample of batteries in the Command, in order to provide an overview of the situation in the Command and to identify problem areas. The questionnaire contained sections developed in previous diagnostic research in an unrelated Army agency. Portions of the questionnaire dealt with a variety of job and environmental dimensions believed to impact on job performance, job satisfaction, and motivation.

Findings:

Preliminary results indicated a number of organizational and job related areas which may be amenable to intervention efforts, and supported the generalizability of diagnostic dimensions developed in an unrelated Army agency. The results also indicated an excellent chance for the development of valid and meaningful performance criteria for the evaluation of organizational change interventions.

Utilization of Findings:

The instruments, in providing a general overview of the situation within the Command, can be used for feedback of information to Command and staff personnel. Initial results indicate that many portions of the questionnaire can be used with minimum changes as integral components of an Organizational Engineering Research program addressed to Army problems amenable to solution by such strategies as job enrichment, team development, and management by objectives.

INITIAL RESULTS OF AN ORGANIZATIONAL SURVEY IN AN AIR DEFENSE COMMAND

CONTENTS



TABLES

TABLES (continued)



FIGURES

# INITIAL RESULTS OF AN ORGANIZATIONAL SURVEY IN AN AIR DEFENSE COMMAND

The mission of the Organizational Engineering Research program is the development of concepts and techniques which can be applied in military settings to enhance organizational effectiveness. A primary objective of the program is to identify and optimize those organizational factors within the Army work environment which have a positive impact on performance. To meet this objective a three-phase research program has been developed. These phases are: (1) the identification of critical organizational problem areas within sponsoring Army commands, and the development of diagnostic instruments for this purpose; (2) the implementation of organizational change techniques, including those typically used in organizational development research, and which are designed to alleviate problems identified in the first phase of the program; and (3) the evaluation of the intervention efforts in terms of meaningful measures of job satisfaction and productivity. Although the initial approach of the research program must, of necessity, be to develop instrumentation, intervention techniques, and evaluation methodologies which are content specific to the unique characteristics of the sponsoring agency, the constructs underlying the research program are chosen with the specific goal of eventually generalizing the program to other Army commands. Thus, the ultimate goal of the research program is to develop a set of carefully validated diagnostic instruments and organizational change techniques which can be used Army-wide with a minimum of professional intervention.

The initial research test bed for this program has been within field environments of the U.S. Army Security Agency (ASA). Extensive developmental, implementation, and evaluative research with ASA has extended over a two-year period. Summaries of these activities have been reported elsewhere.[1,2]

In order to attain the program's long-term goal of developing a highly generalized set of diagnostic instruments and intervention techniques which are applicable to any number of different Army settings, it is necessary to carry out a similar research program in another Army command with differing working conditions and mission. This is necessary

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[1] Cohen, S. L., and Turney, J. R. Organizational diagnostic survey results for a field facility work environment. ARI Research Problem Review, in preparation.

[2] Turney, J. R., and Cohen, S. L. The development of a Work Environment Questionnaire for the identification of organizational problem areas in specific Army work settings. ARI report, in preparation.

in order to cross-validate techniques developed in the initial research program as well as to evaluate how well the underlying concepts apply to different settings. Therefore, as the initial program in ASA was ending, the 32nd Army Air Defense Command (AADCOM) was selected to serve as a second test bed in which to further develop diagnostic and intervention techniques and also to provide an initial evaluation of the generality of the techniques already developed.

## OBJECTIVE

In order to become acquainted with the operations, missions, and general atmosphere of this new test bed, a preliminary survey of selected batteries within the 32nd AADCOM was conducted in the spring of 1974. That introductory survey contained a selected sampling of the diagnostic instruments developed in the ASA research program. This report presents a selected sample of results obtained from that survey. In particular, the results presented here give three categories of information. First, they provide a general introduction to the Command and an assessment of the current state of morale and performance effectiveness there. Second, because the conceptual framework had been developed in the ASA program, information is provided on the applicability and utility of those concepts within a completely different command. Third, a preliminary exploration of the eventual validation techniques to be employed is presented by examining the relationships of morale variables with various performance measures.

## METHOD

The survey required respondents to provide several kinds of data. Headquarters staff members at various echelons within the Command were interviewed, and data bearing on a variety of potential performance criteria were obtained for future validation research. The primary focus of the survey, however, was a structured questionnaire which was administered to 320 enlisted men, E-1 to E-5.

## RESEARCH DESIGN

In order to obtain a representative picture of the entire Command, and to assure reasonable variance on variables of interest in the research program, the eight batteries sampled in this survey were selected by the Command Headquarters to fit the research design shown in Figure 1. That is, three batteries were selected from among improved Hawk units and three from among Nike-Hercules units, along with one Chapparal-Vulcan battery and one headquarters battery. In addition, as requested, the headquarters staff selected the Hawk and Nike-Hercules batteries in such a way that one battery from each missile system had relatively high morale and one had relatively low morale. The remaining four batteries were selected as representative units with medium morale. Determinations of unit morale were made by staff members of the Command

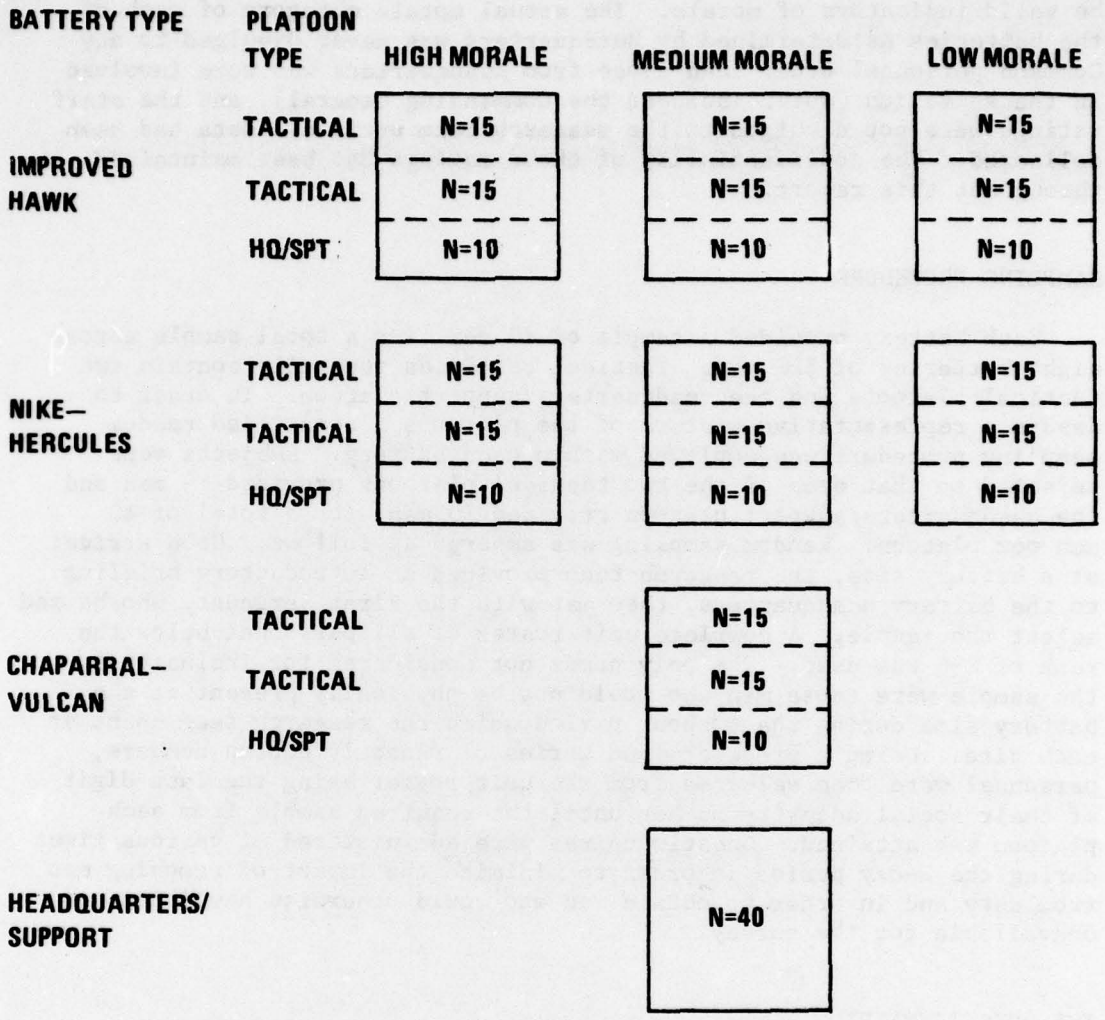


Figure 1. Sampling design

Headquarters, using various standard indicators which are believed to be valid indicators of morale. The actual morale category of each of the batteries as determined by Headquarters was never divulged to any Command personnel other than those from Headquarters who were involved in the selection (which included the Commanding General), and the staff ratings were not divulged to the research team until all data had been collected. The confidentiality of those ratings has been maintained throughout this report.

## SAMPLING PROCEDURE

Each battery provided a sample of 40 men, for a total sample across eight batteries of 320 men. Tactical batteries generally contain two tactical platoons and one headquarters/support platoon. In order to assure a representative picture of the platoons a stratified random sampling procedure was employed within each battery. Subjects were selected so that each of the two tactical platoons provided 15 men and the headquarters/support platoon provided 10 men, for a total of 40 men per platoon. Random sampling was assured as follows: Upon arrival at a battery site, the research team provided an introductory briefing to the battery headquarters, then met with the First Sergeant, who helped select the sample. A complete unit roster of all personnel below the rank of E-6 was used. The only names not considered for inclusion in the sample were those men who would not be physically present at the battery site during the 48-hour period which the research team spent at each site. Using a predetermined series of randomly chosen numbers, personnel were then selected from the unit roster using the last digit of their social security number until the required sample from each platoon was attained. Questionnaires were administered at various times during the 2-day period in order to minimize the impact of removing men from duty and in order to obtain men who would otherwise have been unavailable for the survey.

## THE QUESTIONNAIRE

Since this survey was new to the Command, questionnaire content was derived from several sources. A series of items was based on current psychological theories of job satisfaction and performance motivation. A number of items were developed from the content of informal and unstructured interviews with staff and Command personnel held in December 1973 and February 1974.

A third set of items were derived from several well-known instruments developed, validated, and currently widely used in industry, including some items similar to those previously developed on military populations. This particular set was designed to supplement the other items with a

minimum of overlap in item content. Statistical analyses of these items is reported elsewhere[3] and will not be dealt with in this report.

A final set of items was derived directly from the Work Environment Questionnaire, which was the basic experimental measuring device used in the diagnostic phase of the ASA program. It serves primarily as a diagnostic instrument in providing perceptual data on several facets of the work environment. This data set is analyzed to identify problem areas which may be amenable to correction through organization development techniques. A second and equally critical use of the questionnaire has been to provide feedback to the commanders of sponsoring agencies about problems which may be corrected directly through command intervention. The Work Environment Questionnaire has undergone extensive pretesting at the ASA field station to assure its validity and reliability. The details of its internal and external psychometric development may be found in separate reports.[4] However, it is important to note that the perceptual data collected in the various sections of the questionnaire have been related to meaningful differences in objective, independently measured job performance criteria in the ASA field station. A condensed set of items from the Work Environment Questionnaire was selected for inclusion in the present survey. Selection of items was based on considerations of time availability, item factor structures (reported elsewhere)[5], and the prima facie applicability of each item to a distinctly different organization. This reduced set of items will be the primary focus of this report.

Figure 2 illustrates the conceptual model underlying the Work Environment Questionnaire. As indicated, two major factors are assumed to influence a soldier's performance in complex systems--the job itself and the work organization or system surrounding that job. These two factors can operate independently to hinder or enhance an individual's performance motivation and, indirectly, his productivity. Because of the relative independence of these two factors, improvement of only the system does not in itself compensate for an unchallenging and seemingly meaningless job. Similarly, designing a challenging job in a work situation which lacks good supervision, adequate communication, and performance feedback will not improve productivity and job satisfaction. Both factors are independently analyzed in the Work Environment Questionnaire.

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[3] Personnel Decisions, Incorporated. Measuring motivation, morale, and job satisfaction in Army careers. Draft interim report under Contract DAHC 19-73-C-0025 to Army Research Institute, 1975.

[4] Turney and Cohen, in press, op. cit.

[5] Turney and Cohen, in press, op. cit.

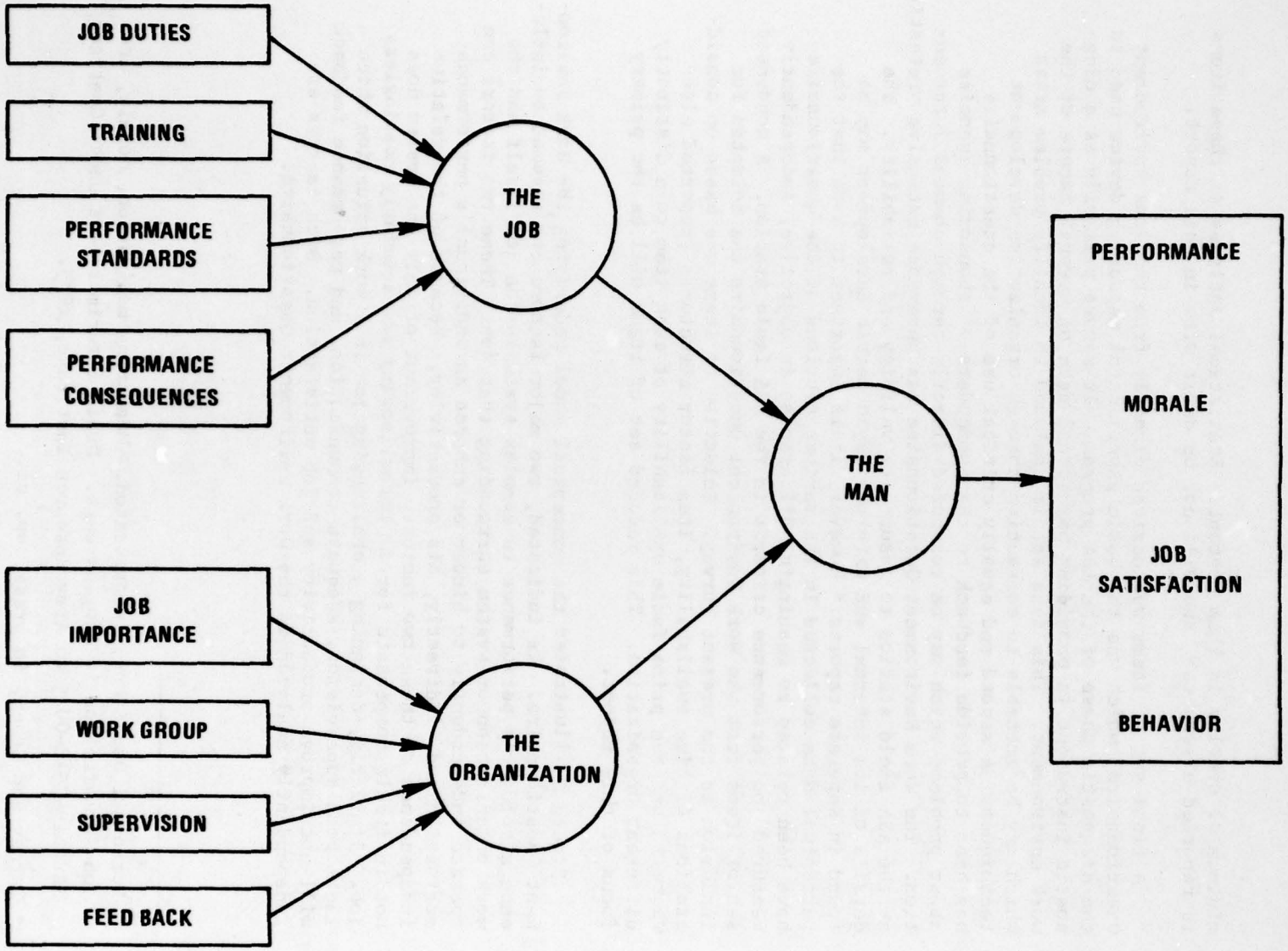


Figure 2. Model underlying basic approach to development of diagnostic instruments

The Job section of the Questionnaire includes a description of job duties as perceived by personnel performing the job, the adequacy of job training, the nature of the performance standards being used to evaluate on-the-job behavior, and the consequences which are perceived to result from good performance.

Critical to the motivation of an individual to perform well on his job is the availability of performance rewards, such as promotion, which are not only valued in themselves but which are also perceived as related to the quality of his performance. Based upon interviews and questionnaire pretesting at ASA Field Station, a list of relevant extrinsic rewards, such as a three-day pass or promotion, has been developed. A similar list of intrinsic rewards has been produced. These are rewards which usually have no external material value but are related to the extent to which a job is interesting and challenging in itself or gives an individual a feeling of worthwhile accomplishment. Thus, intrinsic rewards might include acknowledgement from the supervisor and increased job responsibility. Respondents are asked to assess: (1) the inherent value (V) to them of each extrinsic and intrinsic reward, and (2) the extent (E) to which they believe each reward is given on the basis of good performance. Following simple instrumentality theory[6], the resulting motivation produced by each reward for good performance should be a product of (E) x (V). These indices are used to assess the relative values of a variety of rewards currently available to the military to motivate its people. This information can also be provided to supervisors as part of an organization development implementation program, thus giving supervisors increased insight into the values of their subordinates and a broader spectrum of rewards to more effectively motivate their men.

The section of the questionnaire dealing with the organizational system surrounding the job examines relations among group members, the adequacy of supervision, supervisors, patterns of communication channels currently used, and the importance of the job to the person performing it. As previously indicated, differences in the perception of these factors appear to be reflected in on-the-job performance of soldiers in ASA. In addition, perceptions are obtained on how important a soldier believes his job is to the success of the organization. His perceptions of how important his supervisor and higher echelons believe his job to be are also measured.

Subordinates' perceptions of the adequacy of the supervisor are measured for four critical areas: (1) the adequacy of the supervisor to organize and meaningfully assign job duties, (2) consideration of the supervisor for his subordinate's needs, (3) the ability of the supervisor to adequately assess the performance of his subordinates, and (4) the extent to which the supervisor encourages initiative.

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[6] Vroom, V. H. Work and motivation. N. Y.: Wiley, 1964.

## RESULTS

### VALIDITY OF THE MEASURES

In this section representative findings will be presented for each major area covered in the Work Environment Questionnaire item set. It must be emphasized that these data represent the perceptions and attitudes of the respondents about their jobs and organization. These responses do not by themselves provide any clue as to the validity or reliability of the responses. Preliminary validation research in ASA indicated that most of these items produced substantial validity coefficients and were to predict the productivity of individuals in that context. Nevertheless, it is essential that responses obtained in the present context be validated in order to be reasonably confident of the meaningfulness of the information. Therefore, the first data presented here bear on validity, even though, at this exploratory stage of involvement with the Command, criterion information has not yet been completely developed.

The first question that must be answered involves the validity of the morale ratings used to categorize the batteries in the sampling design shown in Figure 1. Two items in the questionnaire asked the respondents to rate separately their own morale and their unit's morale on 7-point scales ranging from "extremely low" to "extremely high". Responses on these two items were averaged to provide a single ranking for each battery on self-reported morale. The self-reported morale rankings and the headquarters staff rankings of battery morale are plotted on the graph shown in Figure 3. Although units were deliberately selected to include those with high morale, the range of self-report rankings was 1.89 to 2.98, with a mean of 2.45 on a 7-point scale. If staff rankings were an accurate reflection of morale, then they should have a strong relationship with self-reports of morale. In other words, if Command Headquarters thought that morale was low, the men should also have responded that morale was low, and vice versa. Figure 3 shows that Headquarters rankings were fairly accurate with respect to low morale units but optimistic about high morale units. In addition, there was a great deal of error with respect to rankings of average morale units. Even the batteries with the highest morale showed low morale relative to the scale potential.

Although the two independent indicators of morale have been shown to be in moderate disagreement with each other, the question remained as to which measure was more meaningful or more valid. This problem was approached by examining the relationship of the questionnaire ratings of morale with other kinds of criteria, including both self-reports and objective performance criteria.

For example, is self-rated morale related to behavioral intentions of the men? One of the survey items asked men whether they intended to reenlist. The response alternatives were "yes," "not sure," and "no."

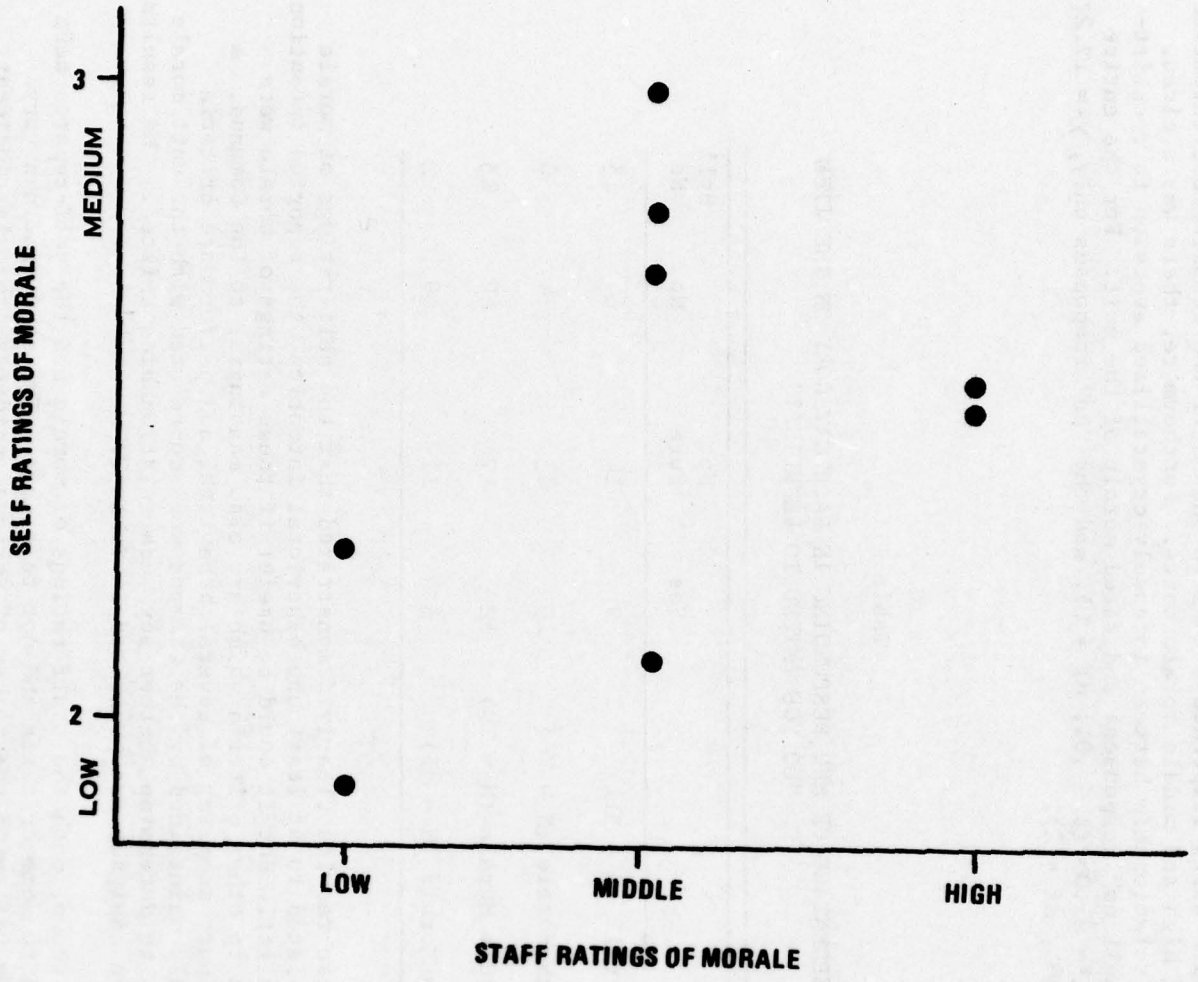


Figure 3. Comparison of staff and self-ratings of unit morale

However, because an unusually large number of men "annotated" the "no" response, a fourth response category was created for analysis purposes and labeled as a response of "hell no" (see Figure 4). As shown in Table 1, a substantial percentage of men did not intend to reenlist. Low morale units responded with less than half the reenlistment intention rate of high and middle morale units. Furthermore, there was a clean, strong relationship between intensely crystallized aversion to reenlisting ("hell no" responses) and rated morale of the unit. For the entire table $\chi^2 = 21.06$ ($p < .01$, $df = 6$), and the "no" responses only, $\chi^2 = 17.27$ ($p < .001$, $df = 2$).

Table 1

PERCENTAGE OF MEN RESPONDING IN EACH CATEGORY ON THE ITEM "DO YOU INTEND TO REENLIST?"

| | Yes | Not Sure | No | Hell No |
|---|---|---|---|---|
| Overall (N = 311) | 9 | 14 | 64 | 13 |
| High Morale (N = 76) | 13 | 13 | 74 | 0 |
| Middle Morale (N = 78) | 12 | 17 | 60 | 13 |
| Low Morale (N = 81) | 6 | 11 | 59 | 22 |

These results clearly demonstrated that the self-ratings of morale were related to at least one behavioral intention, the reported intention to reenlist. But it would be useful if these ratings of morale were related to other criteria which are also meaningful to the Command. A preliminary sampling of several behavioral and performance criteria routinely maintained by the Command were correlated with the unit morale ratings to determine whether any such relationships existed. The results of these analyses are presented in Table 2.

As shown, both the staff ratings of morale and the self-reports were related to some criteria and not to others. The staff ratings very strongly reflected the number of serious incidents, that is, incidents involving the military police and likely to result in court-martial. On the other hand, the self-ratings of morale reflected the manner in which less serious infractions of the rules were handled through the administrative punishment procedures provided for in the Uniform Code of Military

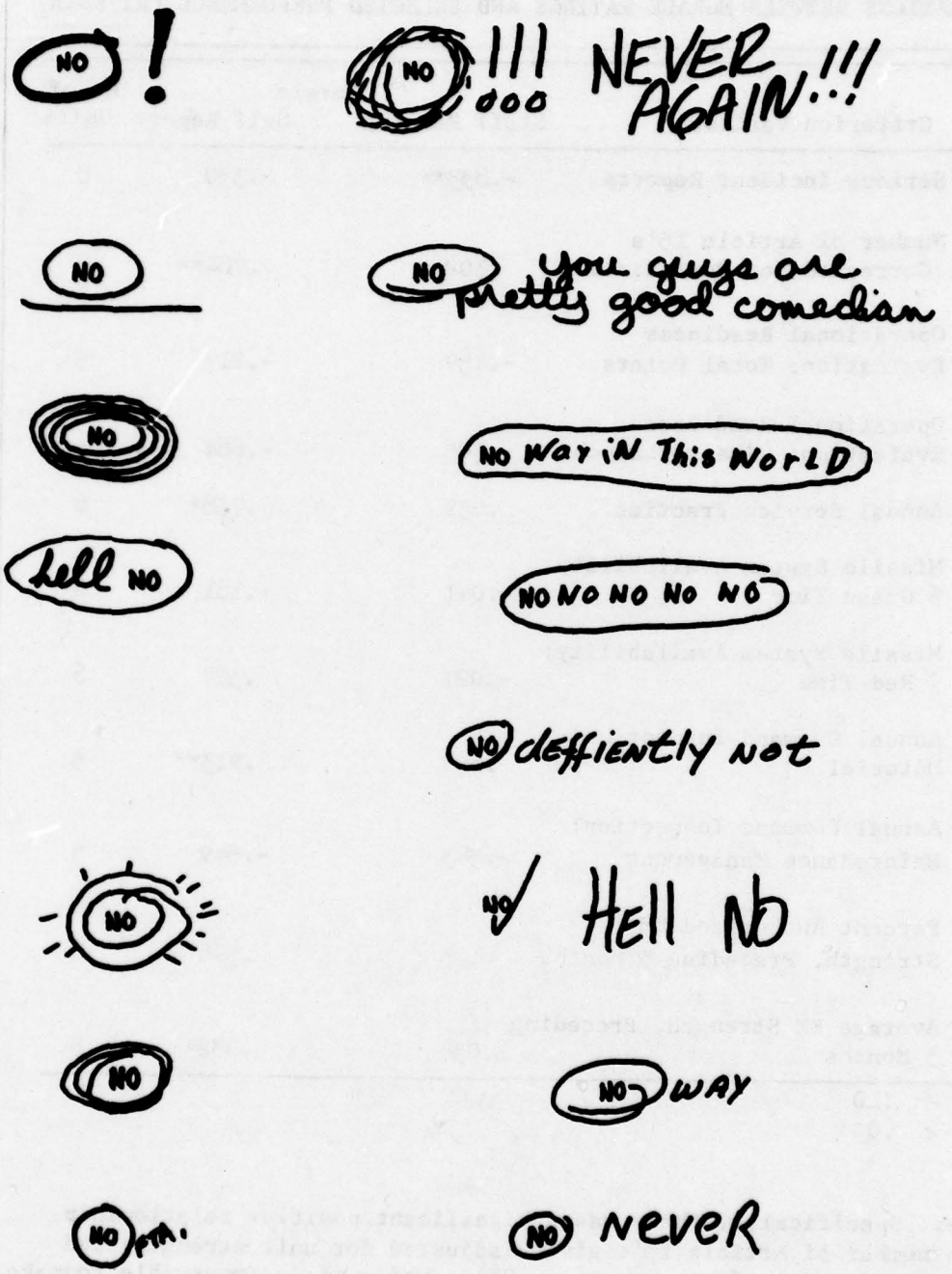


Figure 4. Examples of annotated "NO" responses

Table 2

CORRELATIONS BETWEEN MORALE RATINGS AND SELECTED PERFORMANCE CRITERIA

| | Criterion Variable | Morale: Staff Ranking | Morale: Self Report | No. of Units |
|---|---|---|---|---|
| 1. | Serious Incident Reports | -.833** | -.350 | 8 |
| 2. | Number of Article 15's (Corrected for Unit Size) | .302 | .784** | 8 |
| 3. | Operational Readiness Evaluation: Total Points | -.459 | -.217 | 5 |
| 4. | Operational Readiness Evaluation: Time to Launch | -.705 | -.664 | 5 |
| 5. | Annual Service Practice | .639 | .738* | 6 |
| 6. | Missile System Availability: % Green Time | -.041 | -.181 | 6 |
| 7. | Missile System Availability: % Red Time | -.027 | .327 | 6 |
| 8. | Annual Command Inspection: Materiel | .659 | .913** | 5 |
| 9. | Annual Command Inspection: Maintenance Management | -.543 | -.549 | 5 |
| 10. | Percent Authorized EM Strength, Preceding 3 Months | .143 | .596 | 8 |
| 11. | Average EM Strength, Preceding 3 Months | .036 | .682* | 8 |

* $p < .10$
** $p < .05$

Justice. Specifically, there was a significant positive relationship between number of Article 15's given (adjusted for unit strength) and self-reported morale ($r = .784$, $p < .05$). While it is impossible to make any inferences regarding the causal relationships in these statistics, it does seem appropriate to suggest tentatively that morale is positively related to the firmness and fairness with which minor rule infractions are handled.

In examining the predictive ability of the two ratings of morale it can be seen that the self-ratings of morale were more strongly related to various objective criteria than were the staff ratings of morale. The only exceptions occurred on the Operational Readiness Evaluations and Serious Incident Reports, where there was a slightly stronger relationship with staff ratings than with self-reports. Since self-reports of morale were generally more strongly related to performance criteria and since they had better face validity in the sense that they were first-hand reports rather than the second-person assessments, the self-reported morale ratings appeared to be more useful at that stage of the research than the staff ratings. This conclusion was supported by the fact that the staff ratings appeared to reflect primarily serious problems which usually occurred with a rather low base rate, often involving only one or two individuals, and may not represent the unit as a whole.

Table 2 also shows strong relationships with self-reports for the Time to Launch criterion of the Operational Readiness Evaluation ($r = -.664$, $p > .10$) and performance on the Annual Service Practice ($r = .738$, $p < .10$). In addition to a strong, positive, and statistically significant correlation between self-rated morale and the Materiel portion of the Annual Command Inspection, there was a fairly strong, negative relationship with the Maintenance Management portion of that same Inspection. Missile System Availability performance criteria appeared to be unrelated to reported morale. Finally, there was a fairly strong relationship between self-reported morale and unit strength and percent authorized strength. Thus, while morale had an extremely important role in unit operations, its impact varied with the criterion being considered and showed a complexity of relationships which will be examined further in subsequent reports.

Because of the importance of morale in relation to various performance criteria, it follows that attempts to improve morale have an important pragmatic purpose, as well as a humanitarian rationale. Morale is generally conceded to be composed of a variety of factors which influence a person's attitudes and perceptions, many of which are the focus of the Work Environment Questionnaire items. For this reason, morale is used as an independent variable in presenting the rest of the questionnaire results, where appropriate. Since the self-reports of morale appeared to be much better predictors of other criteria than the staff ratings, the batteries were recategorized on morale using self-reports. In order to prevent the possible contamination of battery mission and morale rating which could result from this procedure, only the three Nike-Hercules and the three Hawk batteries were used when morale was as part of the analysis. When data are presented across all batteries, it should be understood that all 8 batteries were involved in the analysis, and when data are broken out by morale, only the 6 batteries described above were involved.

## DEMOGRAPHIC VARIABLES

In order to make sure that the batteries were relatively equivalent on a variety of other variables which might influence the interpretation of the work environment data, a preliminary examination of a variety of demographic and biographical data was undertaken. Results are presented

in Table 3 over all batteries, and in Table 4 for high, middle, and low morale batteries. The data in Table 3 are fairly representative of the composition of the Army at the time. Table 4 indicates that neither age nor race were related to unit morale but marital status was. The results of Table 4 have been reconfigured in Table 5, which shows more than twice as many accompanied married men in low morale units than in high morale units ($\chi^2 = 7.4$, df = 2, $p < .05$). Examination of the means shows that it is the morale of the single and unaccompanied men which drops, apparently in direct proportion to the number of accompanied married men in the unit. A possible reason could be that accompanied men have more privacy and off-duty freedom; single men are more likely to have the extra and weekend duties and other constraints. This particular finding demonstrates how diverse aspects of the organizational environment can be related to morale, and underscores the need for careful exploration of all aspects of the environmental system before implementing an organizational engineering program.

Table 3

PROFILE OF RESPONDENTS IN ALL EIGHT BATTERIES

| | |
|---|---|
| Average Age: | 21 |
| Marital Status: | |
| Single | 64% |
| Married | 31% |
| If Married: | |
| Accompanied | 44% |
| Unaccompanied | 56% |
| Racial Composition: | |
| White | 70% |
| Black | 17% |
| Other | 13% |
| Average Length of Time in Germany | 13 months |
| Average Time Remaining in Germany | 12 months |
| Distribution of Rank: | |
| E1 | 2% |
| E2 | 19% |
| E3 | 23% |
| E4 | 45% |
| E5 | 13% |
| First Time in the Army | 88% |

Table 4

PROFILE OF MEN IN HIGH, MIDDLE AND LOW MORALE UNITS

(N = 240; six units)

| | High Morale | Middle Morale | Low Morale |
|---|---|---|---|
| Age (years): | 21 | 21 | 21 |
| Racial Composition: | | | |
| White | 68% | 72% | 68% |
| Black | 21% | 18% | 19% |
| Other | 11% | 10% | 13% |
| Married Status: | | | |
| Single | 74% | 66% | 60% |
| Married | 25% | 30% | 37% |
| If Married: | | | |
| Accompanied | 42% | 52% | 68% |
| Unaccompanied | 58% | 48% | 32% |

Table 5

MARITAL AND ACCOMPANIMENT STATUS OF HIGH, MIDDLE AND LOW MORALE UNITS

| | High Morale | Middle Morale | Low Morale |
|---|---|---|---|
| Single | 74% | 66% | 60% |
| Married, Unaccompanied | 14% | 14% | 12% |
| Total Unaccompanied | 88% | 80% | 72% |
| Married, Accompanied | 12% | 16% | 25% |

Although an adequate diagnosis of the organizational problems of an Army unit requires an interest in all aspects of the living and working conditions of the men, the primary focus of a program of organizational change is on the job itself and the related organizational structure surrounding that job.

## THE JOB ITSELF

Job Duties. Because many of the jobs performed in support of the Air Defense mission are inherently different from those in support of the ASA mission, only a small portion of the diagnostic items developed in ASA were directly applicable, and the development of job-related items constituted a major research goal during remainder of the diagnostic phase of the research program. Nevertheless, useful information of a somewhat more general nature regarding perceptions about the job was obtained.

Table 6 presents the responses on two general items dealing with beliefs about the job itself. Although nearly half the men felt the job load was about right, 27% of the men said they were too busy while another 29% said they weren't busy enough. Fully 60% of the men reported too many interruptions in their daily routine.

Table 6

THE JOB ITSELF

| | Too Much | Just Right | Too Little |
|---|---|---|---|
| 1. The Degree to which My Job Keeps Me Busy | 27% | 44% | 29% |
| 2. The Number of Interruptions That Occur in My Daily Routine | 60% | 31% | 9% |

Related to perceptions of the job itself is the adequacy with which the men perceive themselves being utilized in their jobs. When asked to write out what they saw as their primary job duty, 51% of the men gave essentially non-mission related responses, as indicated in Table 7. These responses included a failure to write anything, or response of "None," "I don't know," "Detail," or other responses judged to be completely irrelevant. Of these non-mission related responses, the type most closely related to morale appeared to be a category labeled as "Detail." As can

be seen, nearly twice as many men in low morale units as in the high morale units claimed that their primary job duty consisted of detail type jobs. Furthermore, Table 8 indicates support for this finding in terms of use of abilities, opportunity to work hard, and boredom.

Table 7

RESPONSES TO THE ITEM: "WHAT DO YOU SEE AS YOUR MAJOR JOB DUTY?"

| | | |
|---|---|---|
| Mission Related Responses: | | 49% |
| Non-Mission Related Responses: | | 51% |
| "Detail" | High Morale | 8% |
| | Middle Morale | 13% |
| | Low Morale | 15% |

Table 8

RESPONSES TO THREE ITEMS DEALING WITH THE UTILIZATION OF MEN ON THE JOB

| | Agree | Disagree |
|---|---|---|
| 1. My Job Makes Good Use of My Abilities | 18% | 52% |
| 2. I Have the Opportunity On My Job to Work As Hard As I Want Doing the Things That I Want | 17% | 52% |
| 3. There is a Lot of Boredom in My Unit | 67% | 5% |

Training. A second area of concern relating to the job itself focused on the training received by personnel. This section of the questionnaire was aimed at determining the extent to which various sources of training were perceived as helpful. Table 9 indicates that there was no single source that a majority of the men considered helpful, but that the most helpful sources of training were provided on the job. Thus 45% of the men felt that on-the-job training was helpful, but only 18% felt that discussions with their supervisor were very helpful; in contrast, 28% felt that their fellow workers were very helpful. These last two findings are particularly critical since they are related to quality of supervision

and the effect of the peer group on performance. For example, it was found that the importance of these two sources varied as a function of unit morale. In higher morale units both the supervisor and fellow workers were rated as very helpful by about 28% of the men, but in low morale units only 14% of the men rated the supervisor as very helpful while ratings of fellow workers' helpfulness increased to 32%.

Table 9

EVALUATIONS OF HELPFULNESS OF TRAINING SOURCES

| Source | "Very Helpful" |
|---|---|
| 1. Advanced Individual Training (A.I.T.) | 19% |
| 2. Unit Level Classroom Instruction | 7% |
| 3. On the Job Training (O.J.T.) | 45% |
| 4. Discussions With Supervisor | 18% |
| 5. Discussions With Fellow Workers | 28% |

THE ORGANIZATIONAL STRUCTURE

This major area of the questionnaire acquired data relevant to attitudes about the job and indirectly related to successful performance. Unlike data about the job itself, these factors impinge primarily upon the structure of the organization surrounding the job.

The Work Group. The recognition of the peer group as a training source suggests the importance of the work group on determining individual worker performance patterns. Several items were designed to examine the peer group as a source of influence on the men. As shown in Table 10, only 36% of the men saw themselves performing as a cohesive team. Only 13% agreed that their fellow workers emphasized superior performance, while 38% disagreed with this item. More startling was the finding that nearly half of the men agreed that there was a lot of hostility and anger in their units. This item was particularly strongly related to self-reported morale with 60% of the men in low morale units reporting a lot of hostility. In the high morale unit over a third of the men still agreed with this item.

Table 10

ITEMS EXAMINING GROUP VARIABLES

| | | Agree | Disagree |
|---|---|---|---|
| 1. | My Group Works Well Together As a Team | 36% | 21% |
| 2. | My Fellow Workers Emphasize Superior Performance | 13% | 38% |
| 3. | There is a Lot of Hostility and Anger in my Unit | 47% | 14% |
| | High Morale | 35% | 15% |
| | Middle Morale | 49% | 9% |
| | Low Morale | 60% | 5% |

Leadership and Supervision. Although the above factors have an important effect on job satisfaction and performance, it has long been clearly recognized that good supervision is essential to adequate performance. In particular, the first-line supervisor has a vital function in any organization. He has primary responsibility for structuring the jobs of his subordinates to ensure that the organization's goals are met. At the same time, he must maintain the morale and performance of his subordinates through genuine concern for the needs of his people. He also serves as the major channel through which organizational rewards and punishments are administered. His behavior plays a critical role in moderating the perceptions of his subordinates about the organization and the relationship between the organization's incentives and superior performance. This responsibility entails adequate monitoring of the subordinate's job performance and providing meaningful feedback on the quality of his subordinate's performance.

Table 11 presents the agreement rates to three items dealing with general attitudes toward leadership in the command. As shown, 67% of the men agreed that officers were more interested in their careers than in their men, and 55% of the men agreed that their superiors, both NCO's and officers, would like to be more "hard nosed" than they presently are. A substantially higher percentage of men in low morale units than in high morale units indicated agreement with all three of these items. The general attitude toward leadership was rather negative and strongly related to self-reported morale.

Table 11

ATTITUDES TOWARD LEADERSHIP

| | AGREE | | |
|---|---|---|---|
| | ALL BATTERIES | HIGH MORALE | LOW MORALE |
| 1. Most Officers in this Command are more interested in their careers than in their men | 67% | 52% | 75% |
| 2. Most Officers want to go back to the old "Hard Nose" Army | 55% | 44% | 67% |
| 3. Most NCO's want to go back to the old "Hard Nose" Army | 63% | 52% | 67% |

But what about specific supervisory behavior? The men responded to questions which dealt with several types of supervisory behavior that have been described in the managerial literature as important for good leader-member relations and good performance. First, a central function performed by a supervisor is structuring the jobs of his subordinates. Table 12 shows that most of the men did not perceive this function being adequately carried out.

Another critical supervisory function is showing consideration for the needs and expectations of subordinates; this is as important as his capability to structure a subordinate's job duties. Consideration by a supervisor entails a genuine sensitivity to the feelings, expectations, and thoughts on one's subordinates. This must not be confused with a superficial "how are you?" or pat on the back by a supervisor to a subordinate. Table 12 shows that nearly half of the men did not feel that their supervisor would compliment good work or make any effort to help the men do a good job. This supervisory function is again critically related to unit morale as seen in Table 13, where responses to these same two items are shown as a function of unit morale. Of particular note, 62% of the men in low morale units felt that their supervisor would not go out of his way to help them do an outstanding job.

Closely related to consideration behavior is the function of encouraging initiative. Table 14 shows that while about half of the men felt that this function was fulfilled adequately, there was still a great deal of room for improvement.

Table 12

RATINGS OF SUPERVISORY BEHAVIOR

| | Agree | Disagree |
|---|---|---|
| A. Initiating Structure | | |
| 1. My Supervisor Sets Clear Goals for Me in My Present Job | 17% | 43% |
| 2. My Job Duties are Clearly Defined By My Supervisor | 20% | 33% |
| B. Consideration | | |
| 3. My Supervisor is Likely to Personally Commend Me For Outstanding Performance | 19% | 43% |
| 4. My Supervisor Goes Out of His Way to Help Me Do an Outstanding Job | 16% | 49% |
| C. Performance Evaluation | | |
| 5. My Job Performance is Meaningfully Evaluated by My Supervisor | 21% | 33% |

Table 13

SUPERVISOR CONSIDERATION BEHAVIOR AS A FUNCTION OF UNIT MORALE

| | Morale | Agree | Disagree |
|---|---|---|---|
| 1. My Supervisor is Likely to Personally Commend Me For Outstanding Performance | High | 32% | 30% |
| | Middle | 18% | 46% |
| | Low | 10% | 49% |
| 2. My Supervisor Goes Out of His Way to Help Me Do An Outstanding Job | High | 26% | 35% |
| | Middle | 24% | 48% |
| | Low | 10% | 62% |

Table 14

BELIEFS ABOUT THE EXTENT TO WHICH THE SUPERVISOR ENCOURAGES INITIATIVE

| | Too Much | Just Right | Too Little |
|---|---|---|---|
| 1. Extent To Which My Supervisor Lets Me Do My Work The Way I Think is Best | 7% | 50% | 43% |
| 2. Opportunity I Have To Use My Own Judgment and Initiative On My Job | 8% | 48% | 44% |

Finally, the supervisor must adequately monitor and evaluate the performance of his men. Table 12 indicates that only 21% of the men felt that their supervisor evaluated them meaningfully, and one-third of the men were not satisfied with their supervisor's evaluation of them.

The supervisor's role in the organization and the extent to which his own areas of responsibility are clearly defined will influence his effectiveness as a supervisor. Table 15 shows that there was a great deal of ambiguity about supervisor responsibility, with only 27% of the men agreeing that the supervisor had clearly defined areas of responsibility. Further, 46% of the men reported receiving conflicting orders from various sources within the organization. This situation not only leads to poor morale and poor performance, but also undermines the authority and effectiveness of the supervisor.

Table 15

AMBIGUITY OF SUPERVISOR'S ROLE

| | Agree | Undecided | Disagree |
|---|---|---|---|
| 1. My Supervisor Has Clearly Defined Areas of Responsibility | 27% | 46% | 27% |
| 2. Instructions Given To Me By My Supervisor Never Conflict With Information I Receive From Other Sources | 9% | 45% | 46% |

PERFORMANCE OUTCOMES

Several questions focused on the extent to which various rewards were perceived as related to job performance. For example, Table 16 shows that 52% of the men felt that promotions were not based on merit. This finding is also related to morale, as 57% of the men in low morale units felt promotions were unfair while only 41% of men in high morale units did.

Table 16

FAIRNESS OF PROMOTIONS

| | Agree | Disagree |
|---|---|---|
| The Most Deserving Persons Are Promoted | 10% | 52% |

The men were asked to evaluate the desirability of a variety of possible performance consequences, since some of these might be used to increase motivation if tied more closely to quality of performance. A complete list of these performance consequences is presented in Table 17. The first column of figures reflects how much each of the possible rewards was valued by the men. The figures are mean values on a scale ranging from -5 to +5.

These values have been placed on a scale in Figure 5 to illustrate their relative positions on a desirability dimension. Inspection of the figure shows that Privacy, Personal Freedom during Off-Duty Hours, Self-Respect, and Shorter Tour in Germany, all had desirability scores above 3.5, with Pay Raise getting a score of 3.20. Only one item, Rotation within Germany, had a negative score, indicating a slight negative evaluation of this outcome, which probably reflected the fact that most reassignments within Germany were a result of specific problems with the individual involved. Nevertheless, this item illustrates the need to use caution in interpreting these averages, since even though the mean rating for this outcome was -0.58, 31% of the men rated this alternative as very desirable. A variety of performance outcomes fall in the middle range, including most of the rewards traditionally recognized by the Army.

The second column of figures in Table 17 reflects the strength of the relationship which the men believed to exist between outstanding performance and attaining a given outcome. The men responded to this item on a 7-point scale, which has been translated to a probability scale in such a way that the range of this score runs from 0 for no relationship to 1.00 for a perfect relationship. A moderate relationship would be reflected by a value around .50. These values are displayed in Figure 6. As inspection of Table 17 and Figure 6 shows, only one item, Self-Respect,

Table 17

DESIRABILITY, PROBABILITY OF ATTAINMENT THROUGH OUTSTANDING PERFORMANCE, AND MOTIVATING POTENTIAL OF A VARIETY OF POSSIBLE PERFORMANCE OUTCOMES

| PERFORMANCE CONSEQUENCE | DESIRABILITY | X | PROBABILITY | = | MOTIVATING POTENTIAL |
|---|---|---|---|---|---|
| Promotion | 1.13 | | .43 | | .49 |
| Letter of Commendation | 0.64 | | .46 | | .29 |
| Pay Raise | 3.20 | | .34 | | 1.09 |
| Three-day Pass | 2.48 | | .43 | | 1.07 |
| Rotation within Germany | -0.58 | | .22 | | -.13 |
| Decoration | 0.78 | | .43 | | .34 |
| Shorter Tour in Germany | 3.67 | | .20 | | .73 |
| Free time on the job | 2.40 | | .37 | | .89 |
| Increased job responsibility | 0.69 | | .50 | | .34 |
| Praise from my Peers | 0.34 | | .45 | | .15 |
| Recognition from my Supervisor | 1.03 | | .48 | | .49 |
| Economic Security | 2.57 | | .43 | | 1.11 |
| Feeling of worthwhile accomplishment | 2.18 | | .49 | | 1.07 |
| Personal Freedom Off Duty | 3.80 | | .38 | | 1.44 |
| Self-respect | 3.78 | | .54 | | 2.04 |
| Privacy | 3.80 | | .31 | | 1.18 |
| Close contact with fellow workers | 1.01 | | .47 | | .47 |

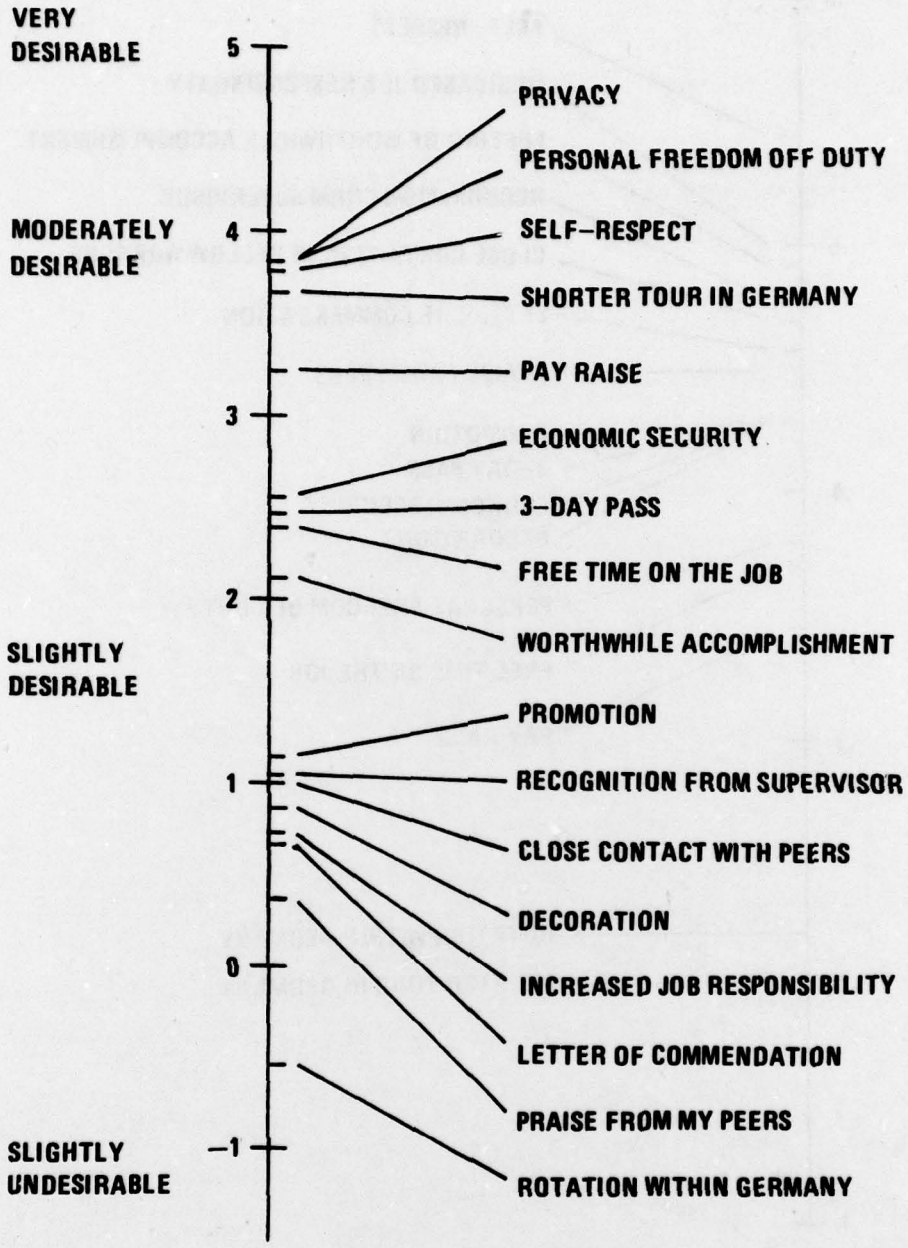


Figure 5. Desirability of performance outcomes

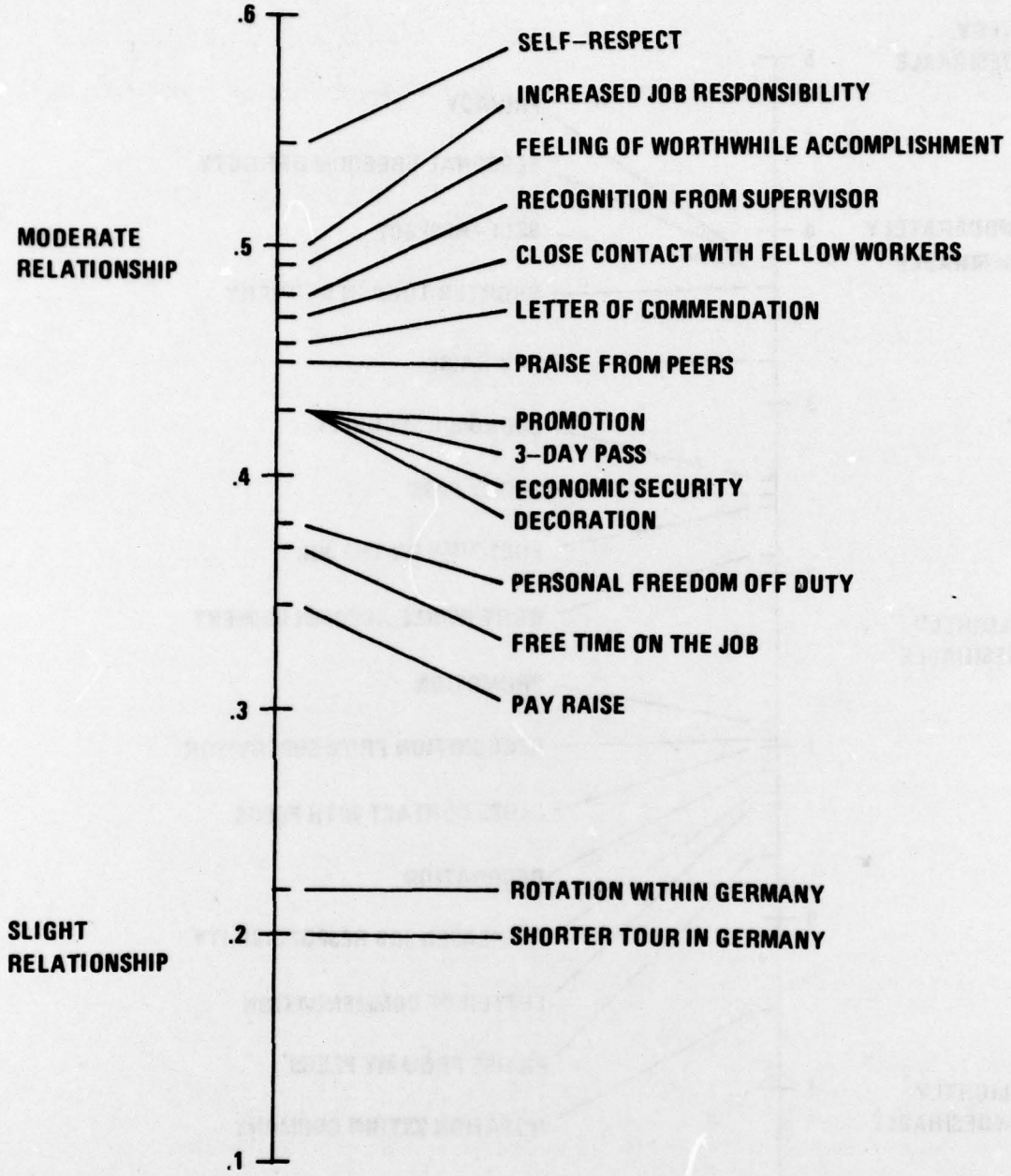


Figure 6. Perceived probability of attainment of various outcomes by means of outstanding performance

exceeds the .50 level of relationship with a rating of .54. Ten of the 17 items fall from .4 through .5. Two items, Shorter Tour in Germany, and Rotation within Germany, fall at or near .2, reflecting the belief that almost no relationship existed between assignment policies and performance. None of the possible performance consequences was more than moderately related to performance.

The final column in Table 17 reflects the Motivating Potential of each outcome, which is obtained by multiplying the values in the first two columns. This procedure reflects the basic premise of current motivational theories that the desirability of a reward is not enough to motivate an individual to work hard if there is no way good performance will result in getting that reward. Thus a slightly valuable reward with a high probability of attainment may be a stronger motivator than a very valuable reward with little chance of getting it. To reflect this relationship, the Desirability of the reward is multiplied by the Probability of attaining the reward through outstanding performance, to yield a score reflecting Motivating Potential. These scores can range between +5, reflecting a maximum rewarding potential, and -5, reflecting a maximum punishing potential. Actual scores obtained from Table 17 are illustrated in Figure 7. Inspection of the figure indicates that, on the average, all but one of the outcomes had only slight to moderate motivating potential, with values ranging from -.13 to 1.44 on a scale with a maximum value of 5.0. One performance consequence, Self-Respect, stood noticeably above the rest in terms of its motivating power, with a mean value of 2.04. These results suggest that one of the primary reasons that most of the men worked as hard as they did was to maintain their own feeling of self-respect. Nearly all of the other potential rewards had little or no over-all effect on performance. One of the goals of subsequent research in the Command is to increase the motivating potential of already desirable outcomes by working out procedures to link the outcomes more closely to performance.

Changes in the desirability of a particular consequence can be revealing of the dynamics within a unit. When desirability ratings were examined at each of the morale levels, three items were found to change substantially. As shown in Figure 8, Rotation to another unit was rated as substantially more desirable in low morale units than in high morale units, suggesting a strong desire to escape an unpleasant circumstance associated with the unit, not merely with being in Germany. The desirability of Personal Freedom during Off-Duty Hours increases substantially in low morale units from its already high rating in high morale units. This again probably expresses a feeling of being trapped and a desire to escape. Finally, a noticeable <u>decrease</u> in the desirability of Recognition from the Supervisor occurs in low morale units--suggesting that low morale may be not simply an expression of less satisfaction but may accompany alienation and an active rejection of legitimate authority. Extremely high levels of hostility and alienation could obviously represent a very dangerous situation.

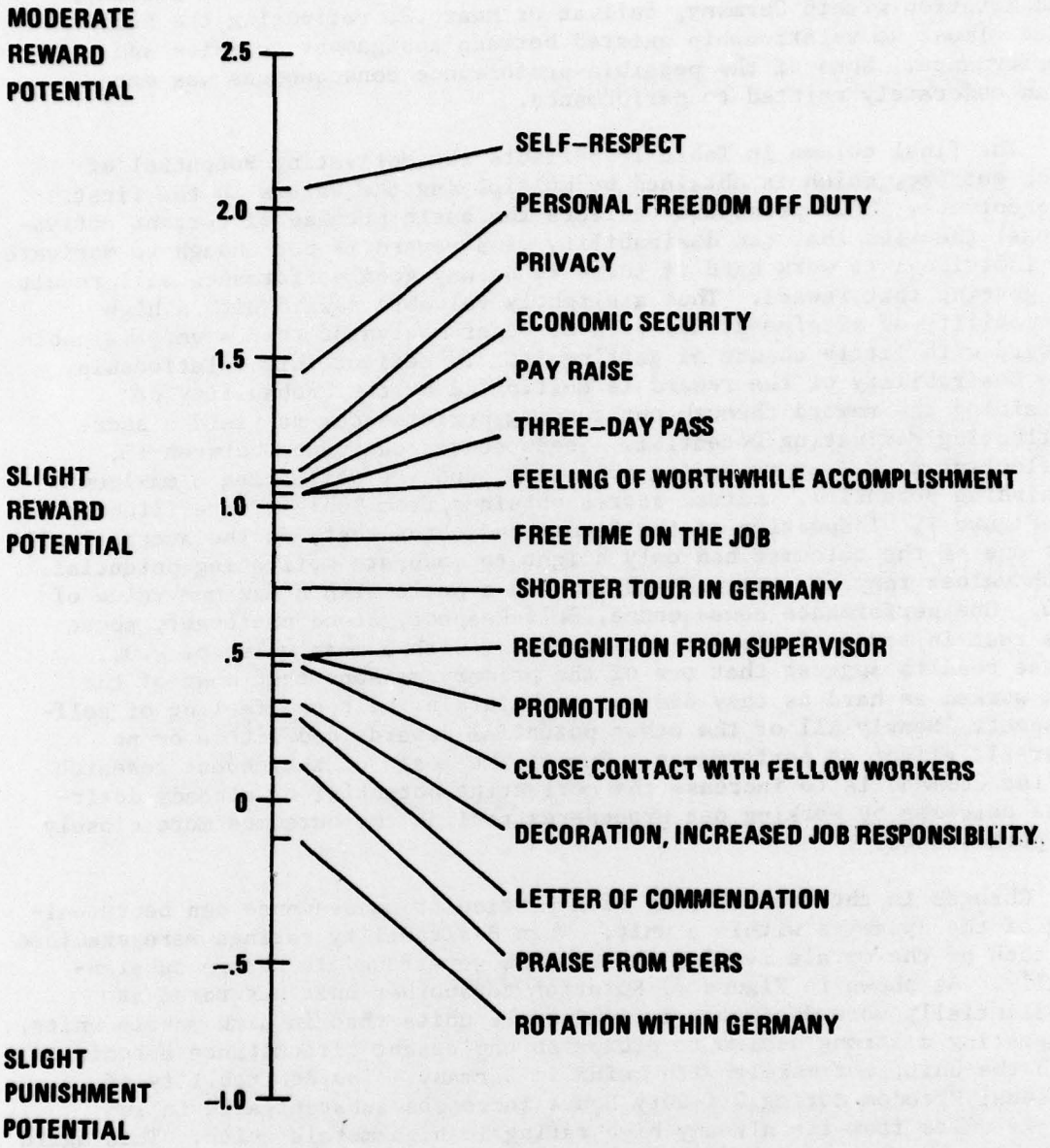


Figure 7. Motivating potential of performance outcomes

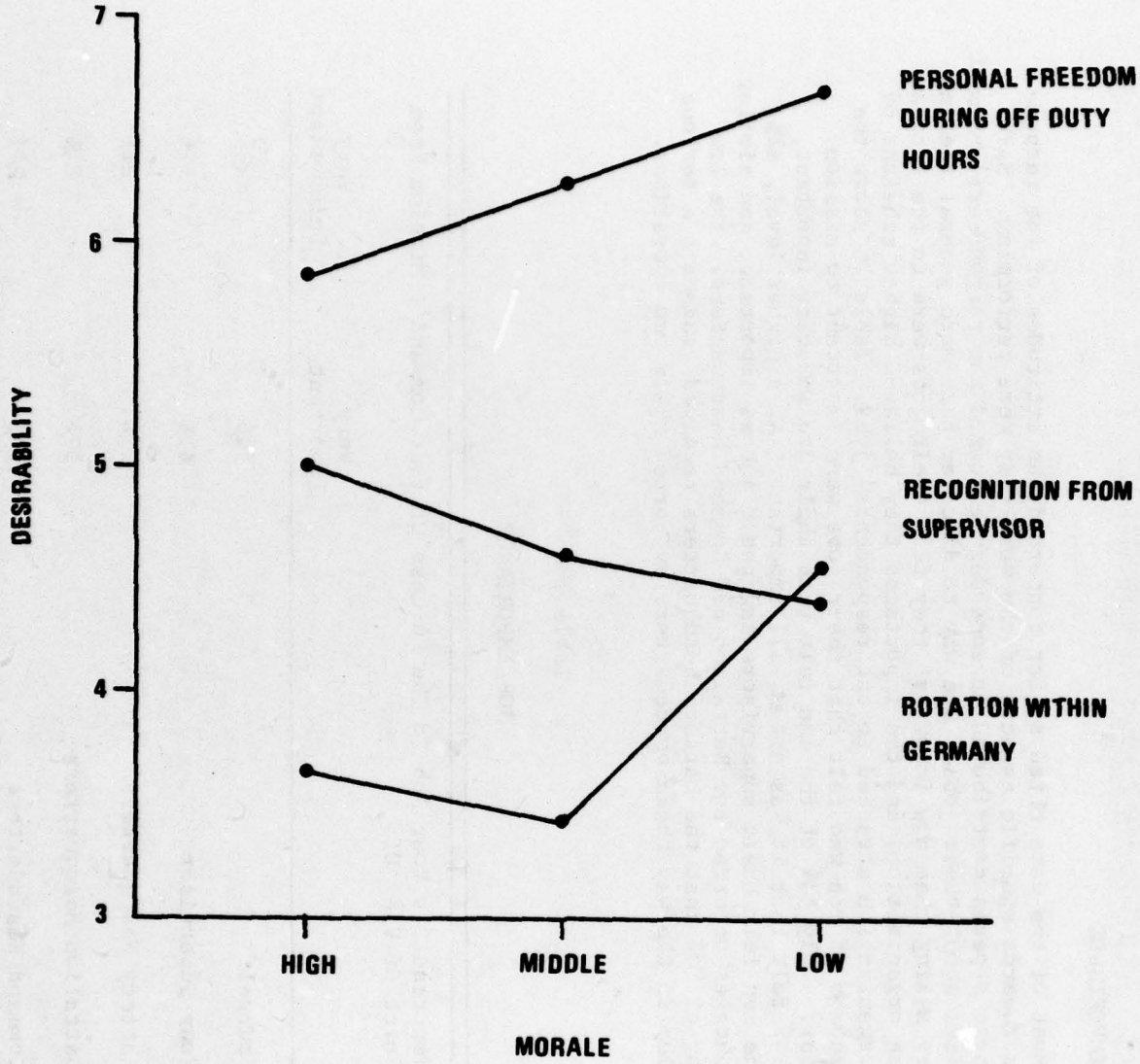


Figure 8. Change in desirability of outcomes as a function of morale

Clearly, many things will motivate a man besides pay and promotions. Because of their desirability and their general usefulness for maintaining better morale, many of these intrinsic motivators should be implemented as completely as possible. Others should be more closely tied to good performance by clearly establishing a performance-consequence relationship.

## JOB IMPORTANCE

Most of the data cited so far concerned the attitudes of the respondents towards specific aspects of the work they were performing. Each of those aspects contributed in some degree toward the respondents' overall feelings about their jobs. One way to discover that more general feeling was by asking them how important they felt their jobs were to the success of the organization, and the importance they believed higher echelons of the organization attached to the respondents' jobs. Table 18 shows the percentage of men who felt that their jobs were important to mission success. Only 34% of the men felt that their job was very important, and 29% felt that it was not at all important. At a higher level, 41% of the men felt their supervisors saw their job as important, and similar percentages occurred for Battalion and Command headquarters. The low rating of 28% that the battery headquarters received suggests a serious problem in the way these headquarters supported their own operations.

Table 18

JOB IMPORTANCE

How Important Is Your Job To The Success Of Your Command's Mission From The Point Of View Of:

| | Very Important | Very Unimportant |
|---|---|---|
| 1. Yourself | 34% | 29% |
| 2. Your Supervisor | 41% | 17% |
| 3. Battery Headquarters | 28% | 21% |
| 4. Battalion Headquarters | 37% | 21% |
| 5. Command Headquarters | 39% | 22% |

## DISCUSSION AND CONCLUSIONS

The data presented in this paper represent a selection of results obtained from the initial contact of the Organizational Engineering Research Work Unit with the 32nd AADCOM. As such, these data serve a number of functions and have a variety of implications for subsequent activities within the Command. The data serve as a general introduction to the Command, providing a feel for the various and complex missions which the Command must accomplish, as well as an initial glimpse into the perceptions and attitudes of the men serving within the Command.

The rather large number of different measures of performance which were used to evaluate the batteries not only provides an indication of the type and complexity of the missions of the various batteries, but also underscores the necessity for a research program which will carefully develop a set of reliable and meaningful performance criteria. In this respect the present results are encouraging since several objective performance criteria were discovered to be related to self-report measures; in fact, in several cases, rather strong relationships appeared to exist. Yet the results are complex; some criteria showed no relationship to morale while others showed positive and still others negative relationships. It is particularly critical to understand the interrelationships among the various performance criteria since they are essential to the adequate evaluation of the intervention efforts which will eventually be implemented within the Command.

The data also provide a method for evaluating current procedures within the Command. For example, the comparison of the two ways of categorizing unit morale indicated differences in the way it was conceptualized by the Command and by the men themselves. Further probings of this type could provide a method by which commanders could better understand their men. In a similar manner, this entire report can be a prototype for providing feedback to Command personnel on any number of problem areas. In fact, this paper is an expanded version of a report already provided to the Commanding General and a variety of his command and staff personnel.

These data are presented around a conceptual framework developed in a separate command with a different mission. Although further analyses are necessary to evaluate adequately the extent to which this set of items can be generalized from one command to another, the results suggest that a substantial portion of the original conceptualization was successfully generalized here. As further analyses probe the data, inadequacies will be highlighted and changes or additions to the conceptual framework and item types and formats will occur.

The ultimate goal of the entire program is to develop a set of instruments which will adequately diagnose the major organizational and work related problems which have a direct impact on unit effectiveness and job satisfaction. Based on the discovery of these problems, specific intervention programs will be developed and implemented with the aim of correcting

or alleviating them. The development of valid and reliable performance and job satisfaction criteria is mandatory in order to permit an adequate evaluation of the effects of the experimental programs. Criteria already identified and reported here show substantial promise that this goal can be achieved and that adequate evaluation of an Organizational Engineering Research Program in 32nd AADCOM is feasible.

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